

## EXECUTIVE SUMMARY

Last revision - January 27, 1997 [Permit Transfer -Energy Fules Nuclear, Inc. to International Uranium (USA) Corp. C/o Energy Fules Nuclear, Inc.]

<b>Mine Name:</b> <u>Hecla Shaft</u>	<b>I.D. No:</b> <u>M/037/043</u>
<b>Operator:</b> <u>International Uranium (USA) Corp.</u> <u>c/o Energy Fules Nuclear, Inc.</u> <u>Three Park Central, Suite 900</u> <u>1515 Arapahoe Street</u> <u>Denver, Colorado 80202</u>	<b>County:</b> <u>San Juan</u> <b>New/Existing:</b> <u>existing</u> <b>Mineral Ownership:</b> <u>Mixed (State,</u> <u>County &amp; Fee)</u> <b>Surface Ownership:</b> <u>Mixed (State,</u> <u>County &amp; Fee)</u> <b>Lease No.(s):</b> <u>ML 24092, San Juan</u> <u>County Lease 2582,</u>
<b>Telephone:</b> <u>(303) 623-8317</u> <u>FAX (303) 595-0930</u>	

**Contact Person:** Michelle Rehmann. Environmental Coordinator

**Permit Term:** life of mine

**Life of Mine:** estimated 10 -15 years

**Legal Description:** shaft, facilities and one waste dump in NE/4 NE/4 sec. 6, T29S R24E;  
one waste dump and three ponds in NW/4 NW/4 sec. 5, T29S, R24E; ventholes in NE/4  
sec. 6, T29S, R24E and also in SW/4 and SE/4 sec. 32, T28S, R24E, SLB&M.

**Mineral(s) to be Mined:** uranium, vanadium

**Mining Methods:** underground, random room and pillar mining .

**Acres to be Disturbed:** 29.3 acres

**Present Land Use:** gravel pit, mining, dry rangeland

**Postmining Land Use:** dry rangeland; wildlife habitat(?)

**Variances from Reclamation Standards (Rule R647) Granted:** NONE IN WRITING -  
variance to topsoil salvage in area of pre-existing disturbance (shaft location) implied.

### Soils and Geology:

**Soil Description:** soils at the shaft/facilities site was removed by the previous gravel  
operation in the same location. DOGM letter of 11/5/92 recommended amending the soil with  
organic material such as sewage sludge or manure, 200 lbs/acre ammonium sulfate, and 60  
lbs/acre muriate of potash

**pH:** SCS map projects a pH of 7.6 - 8.5. Testing of waste rock from the nearby La Sal - Snowball mine would project a waste rock pH of 7.8. Waste rock consists of sandstone and mudstone material.

**Special Handling Problems:** UNKNOWN

**Geology Description:** proposed mining of the Salt Wash Sandstone member of the Morrison Formation located 600-900 feet below the surface.

### **Hydrology:**

**Ground Water Description:** groundwater occurs in the surficial gravel alluvium and the immediately underlying Dakota Sandstone and Burro Canyon Formation. The single vertical shaft entry is concrete lined. If groundwater is encountered during the drilling of vent holes, grout will be used.

**Surface Water Description:** there are no perennial streams immediately adjacent to the mine site. An ephemeral channel does run adjacent to the site and may be used as a waste rock disposal site. If this is done the channel will be diverted and the dump protected from erosion.

**Water Monitoring Plan:** NONE

### **Ecology:**

**Vegetation Type(s); Dominant Species:** sagebrush, rubber rabbitbrush, russian thistle, native grasses, pinion-juniper

**Percent Surrounding Vegetative Cover:** disturbed area 0-5%; undisturbed area 10-15%

**Wildlife Concerns:** shaft facility is located a few hundred feet from State Road 46, and therefore, no additional impacts to wildlife are anticipated.

**Surface Facilities:** main shaft, escapeway borehole, five ventilation boreholes, several buildings such as a hoist house, maintenance shop, and offices; approximately 4,800 feet of access roads.



## **Mining and Reclamation Plan Summary: . . . .**

### **During Operations:**

The shaft site and ancillary facilities will be located in an abandoned gravel pit with little topsoil available for salvage. Available topsoil will be salvaged in advance of development to be stored and stabilized in revegetated stockpiles. Some access roads may be constructed or rebuilt to service future ventilation sites. New access roads will be constructed in a manner to allow for proper drainage and erosion control.

Ventilation boreholes will be 5-8 feet in diameter. Waste rock generated from mine development will be deposited in the old gravel pit workings to the east. When this area is filled, mine waste will be deposited to the south of the shaft following a natural depression to the southwest. Where practical, topsoil affected by site expansion will be salvaged and stockpiled. Waste rock dumps will be constructed at angle of repose by end dumping. Revegetation test plots will be employed.

### **After Operations:**

Surface debris, scrap metal, discarded wood and other materials will be buried or removed from the site. The shaft headframe, buildings and other surface facilities will be dismantled and removed. The shaft and ventilation holes will be sealed with suitable concrete-steel covers to prevent accidental or unauthorized entry.

Dumps, pads and other disturbed areas will be stabilized. Stabilization will consist of rounding of the outer edges of the dumps and pads, reducing the slope of waste rock faces, and regrading drainage contours on the affected areas. Topsoil and overburden will be spread back over these areas where possible. Water evaporation ponds will be reclaimed. Roads will be graded to match the existing topography.

Compacted surfaces will be scarified, and seeded as recommended and then drag covered. Seeding will preferably take place in the fall. At present, there are no plans for the addition of a fertilizer. However, should revegetation tests prove soil amendments are significantly helpful in establishing vegetation, then amendments and other proven surface techniques will be employed.

### **Surety:**

**Amount:** \$177,500 (2002-\$)

**Form:** Surety Bond

**Renewable Term:** 5 years